

05–240 Replacement of rocker arms and rocker arm brackets

| Valve clearance | engine cold (approx. 20 °C) | engine hot (60 °C ± 15 °C) |
|-----------------|-----------------------------|----------------------------|
| Intake | 0.10 ¹⁾ | 0.15 ¹⁾ |
| Exhaust | 0.30 | 0.35 |

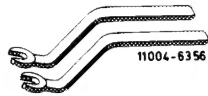


¹⁾ 0.05 mm greater for steady ambient temperatures below –20 °C.

Rocker arm, rocker arm bracket and shaft

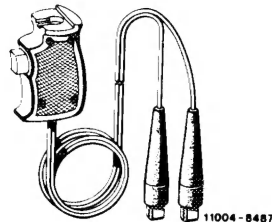
| | | |
|--------------------------------------|----------------|----------------|
| Basic bore in rocker arm | | 14.00 14.02 |
| OD of bushing | ≈ | 14.03 14.05 |
| ID of bushing and bore in rocker arm | (open bushing) | — |
| | finished size | 12.00 12.02 |
| Rocker shaft diameter | | 11.98 11.96 |
| Radial play of rocker arm on shaft | | 0.02–0.06 |
| Bore in rocker arm bracket | | 11.98 12.00 |
| Width of rocker arm bracket | | 24.07–24.20 |

| Tightening torques | Nm | (kpm) |
|--|----|-------|
| Bolts for cylinder head cover (engine 615) | 5 | (0.5) |
| Nuts for cylinder head cover (engines 615, 616, 617) | 15 | (1.5) |
| Rocker arm brackets to cylinder head | 38 | (3.8) |

Special tools

| | | |
|--|---|------------------|
| Valve adjusting wrench 14 mm (two) |  | 615 589 00 01 00 |
| Holding wrench for valve spring cap |  | 615 589 00 03 00 |
| Socket 27 mm, 1/2" drive to crank engine |  | 001 589 65 09 00 |

Remote starter switch for cranking engine
(individual component of compression
pressure recorder 001 589 46 21 00)



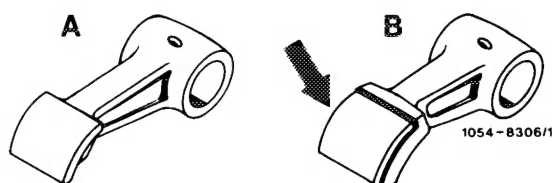
001 589 46 21 08

Note

There are two types of rocker arm:

1st version

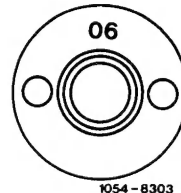
Rocker arm with induction hardened and hard chrome-plated contact surface (A) for tempered camshafts (code Nos. 00 and 02).



2nd version

Rocker arm with hard-backed, soldered contact surface (B, arrow) for chilled casting camshafts (code Nos. 06, 08 and 10).

The code No. is stamped in the aft camshaft end.



Caution:

Be sure not to cross rocker arms because this would destroy the cams and rocker arm contact surfaces.

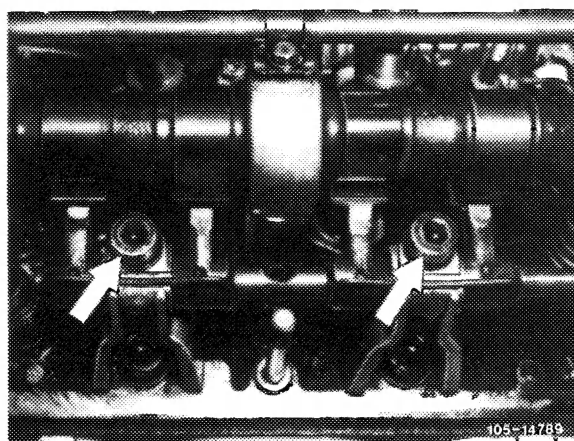
When replacing a rocker arm check whether bushing is fitted or not.

Rocker arms without bushings are to be discarded.

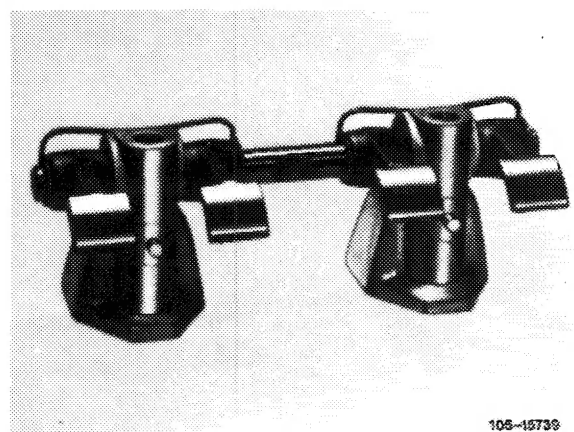
Rocker arms with bushings can be rebushed.

Removal

- 1 Remove rocker arm assemblies complete (05—235).

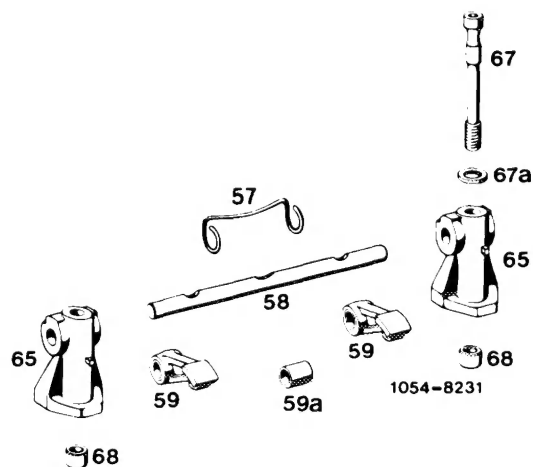


- 2 Force tension springs off rocker arm brackets.



- 3 Draw tension spring (57), bearing brackets (65) and rocker arms (59) off rocker shaft (58).

- 57 Tension spring
- 58 Rocker shaft
- 59 Rocker arm
- 59a Rocker arm bushing
- 65 Bearing bracket
- 67 Bolt
- 67a Washer
- 68 Locating sleeve



Installation

4 Slip tension spring (57), rocker arms (59) and bearing brackets (65) onto rocker shaft (58).

5 Slip second eye of tension spring onto rocker shaft and press into bearing bracket groove.

6 Install rocker arm assemblies complete (05-235).

7 Adjust valve clearance (05-210).

